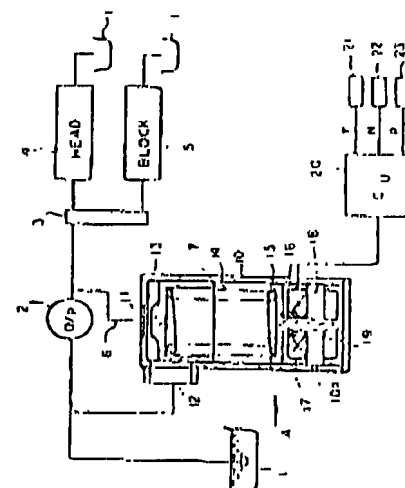


# (54) LUBRICATING OIL PRESSURE ADJUSTING DEVICE OF INTERNAL COMBUSTION ENGINE

(11) 4-17708 (A) (43) 22.1.1992 (19) JP  
 (21) Appl. No. 2-115888 (22) 7.5.1990  
 (71) NISSAN MOTOR CO LTD (72) GOJI MASUDA(1)  
 (51) Int. Cl. F01M1/16

**PURPOSE:** To optimally control the control of lubricating oil pressure of an internal combustion engine by controlling the pressure to open a relief valve receiving each signal of oil temperature, engine revolution, and oil pump outlet side hydraulic pressure.

**CONSTITUTION:** A control unit 20 controls the electricity conducting state to an electromagnet 17 receiving each signal from an oil temperature sensor 21 to detect main gallery oil temperature, revolution sensor 22 to detect the revolution of an engine, and hydraulic pressure sensor 23 to detect the hydraulic pressure of the outlet side of an oil pump. The pressure to open a relief valve is variably controlled by moving up a movable body 15 due to the repulsion of the electromagnet 17 and a permanent magnet 19. Due to this constitution, the supply oil pressure by an oil pump 2 is lowered mainly in middle speed area while the oil temperature is high. Therefore, the friction of an engine and the drive resistance of the oil pump 2 in the middle speed area can be lowered to perform the optimum control of lubricating oil pressure.

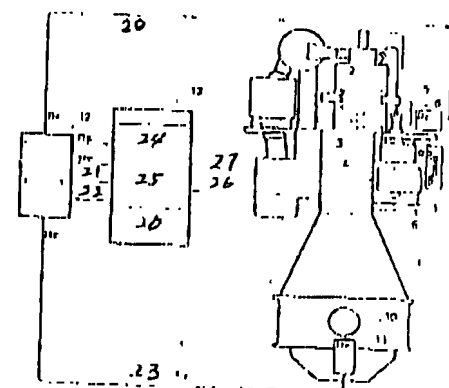


# (54) OIL POURING DEVICE FOR CYLINDER OF DIESEL ENGINE

(11) 4-17709 (A) (43) 22.1.1992 (19) JP  
 (21) Appl. No. 2-115242 (22) 2.5.1990  
 (71) MITSUBISHI HEAVY IND LTD (72) NORIYOSHI NAGASE(1)  
 (51) Int. Cl. F01M1/16, F01M1/06

**PURPOSE:** To automatically and most suitably adjust oil pouring quantity according to the operation condition of an engine by providing a controller, which calculate and store lubricant pouring quantity and an actuator, which controls the position of an oil pouring quantity setting handle.

**CONSTITUTION:** A controller 13 receives signals of engine speed and fuel quantity from an upper system(remote controller) 12 and calculates lubricant filling quantity and stores the filling quantity. An actuator 6 controls an oil pouring unit 4 through a gear box 7 based on the direction from the controller 13. Owing to this constitution, the adjustment of oil pouring quantity and the grasp of correct oil pouring quantity according to the operation condition of a diesel engine 1 become possible, and as a result, the prolongation of a cylinder liner 2 and the improvement of the reliability of the diesel engine 1.



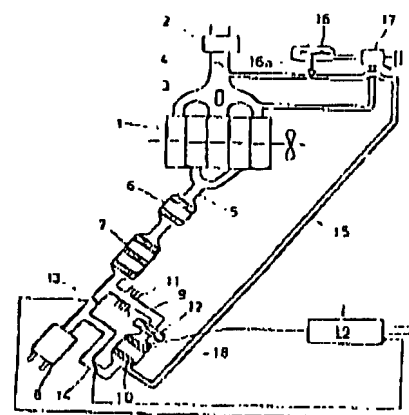
11: No sensor, 20: fuel pump rack drawing RC signal, 21: direction, 22: alarm, 23: engine speed No signal, 24: operation display section, 25: control section, 26: power source section, 27: actuator, 28: handle position

# (54) PURIFYING DEVICE OF ENGINE EXHAUST GAS

(11) 4-17710 (A) (43) 22.1.1992 (19) JP  
 (21) Appl. No. 2-116376 (22) 2.5.1990  
 (71) MAZDA MOTOR CORP (72) NORIYUKI KURIO(1)  
 (51) Int. Cl. F01N3/02, F01N3/24

**PURPOSE:** To prevent the exhaustion of HC into the atmosphere and the deterioration of acceleration performance caused by the rising of backing pressure by shutting off the by-path, in which exhaust gas flows only when the temperature of the gas is low, based on the signal relating to the sudden change of the operation condition of an engine.

**CONSTITUTION:** A by-path 9, in which an adsorption device 10 comprising activated carbon is included, is provided and is in parallel with the air exhaust path in the down stream of catalysts 6 and 7. Exhaust gas is made to flow through the by-path 9 only when the temperature of the exhaust gas is the specified value or less by controlling the closing of a by-path valve 13 by means of a control unit 19. The control unit 19 controls the opening of the by-path valve 13 based on the signal relating to the sudden change of engine operation condition and shut off the flow of the exhaust gas passing through the by-path 9 by controlling the closing of a shutter valve 14. This constitution can prevent the HC adsorbing to the adsorption device 10 from being exhausted into atmosphere. In addition, the deterioration of acceleration performance caused by the lowering of exhaust resistance and the rising of backing pressure can be prevented.



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